

HVOF as a Hard Chrome Replacement



Jon L. Devereaux

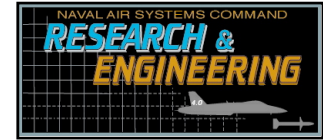
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**NADEP Jacksonville
Materials Engineer**

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HVOF as a Hard Chrome Replacement



Current Status of P-3 Main Landing Gear

**HVOF MLG Piston installed 26 April 99 on VP-30
Aircraft BuNo 156522**

Aircraft completed PDM at NADEP JAX on 5 Dec 99

PDM extended due to multiple spar cap insertions

850 Landings on HVOF coated MLG Piston (Aug 00)

**HVOF Coated Piston removed from service Aug 00 due
to internal oil leak on ID-2 (NOT HVOF COATED)**

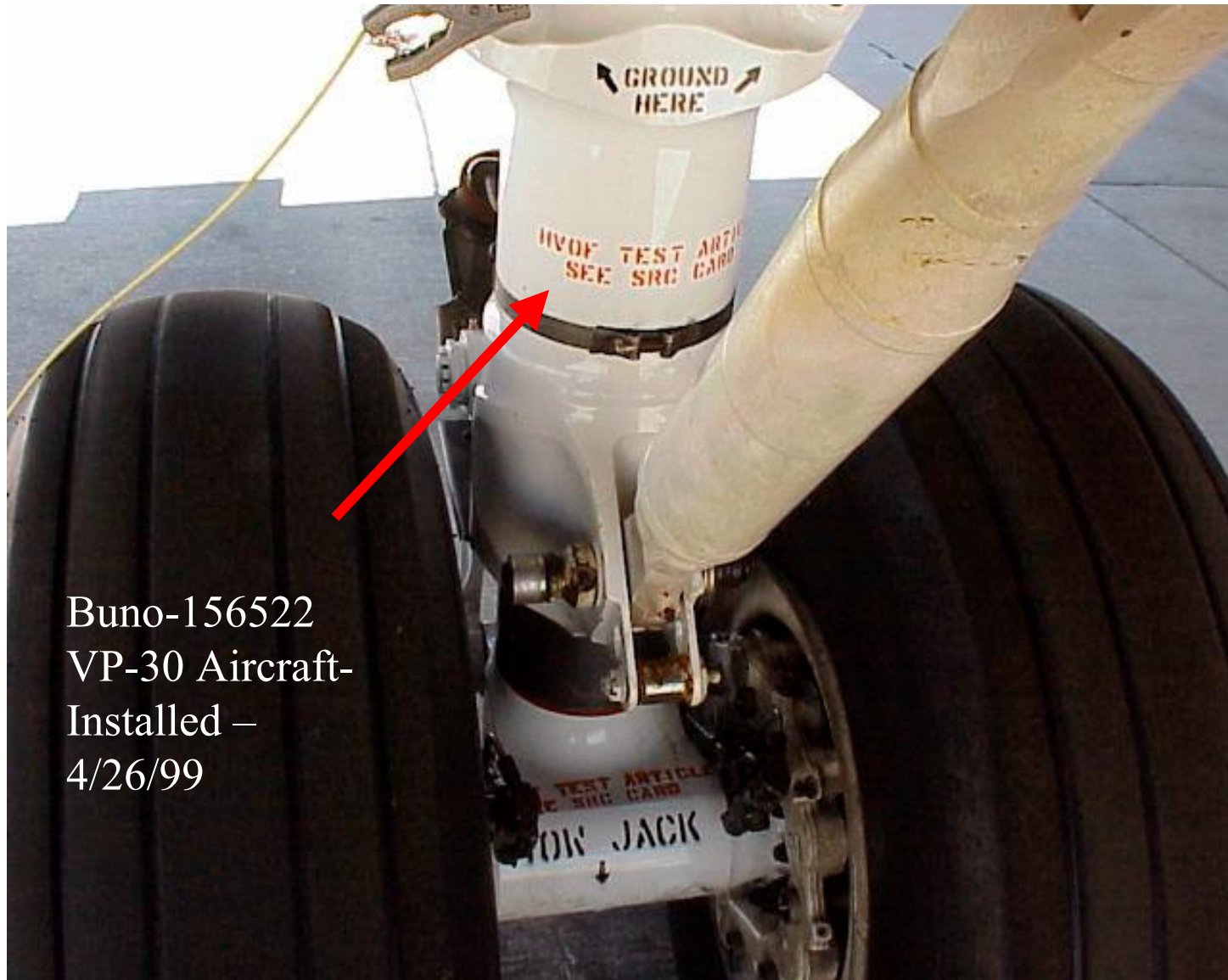
**HVOF Coated Strut repaired, sent back to VP-30
Installed on Aircraft 160284 STBD April 25, 2001
1,078 Total Landings on HVOF coated strut (8/23/01)**

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Buno-156522
VP-30 Aircraft
Installed 4/26/99

HVOF as a Hard Chrome Replacement

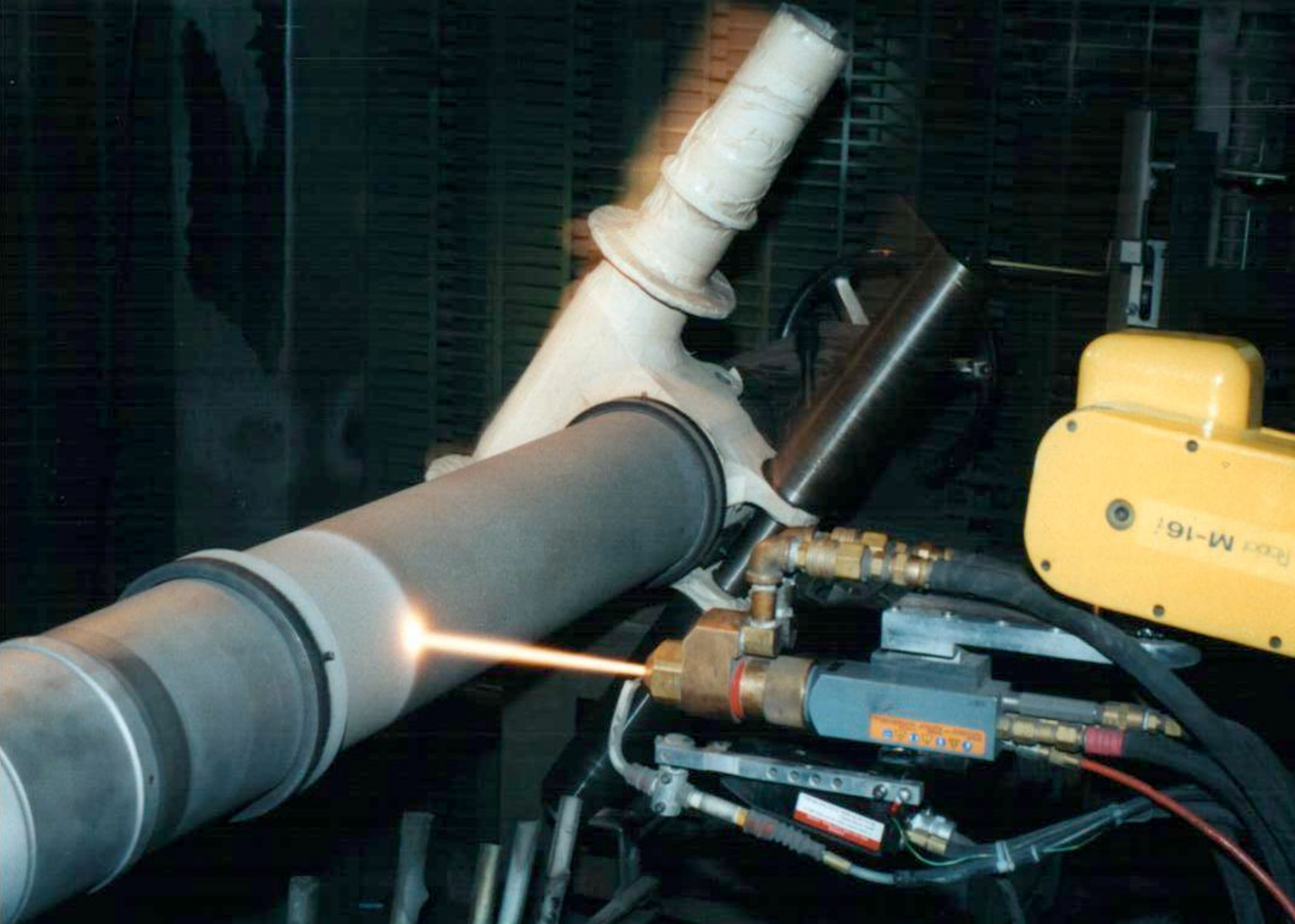


Buno-156522
VP-30 Aircraft-
Installed –
4/26/99

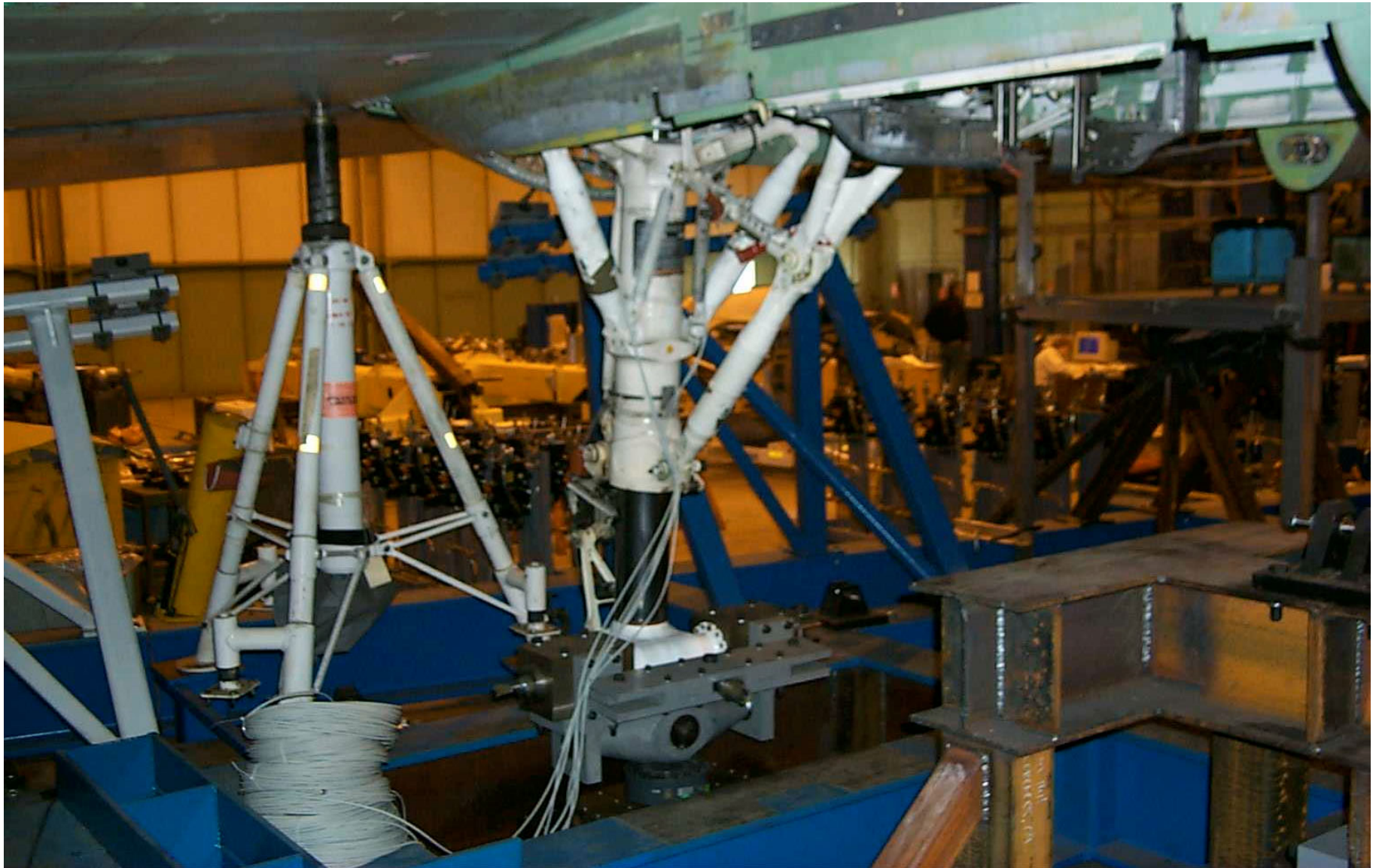
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Second P-3 MLG Piston HVOF coated

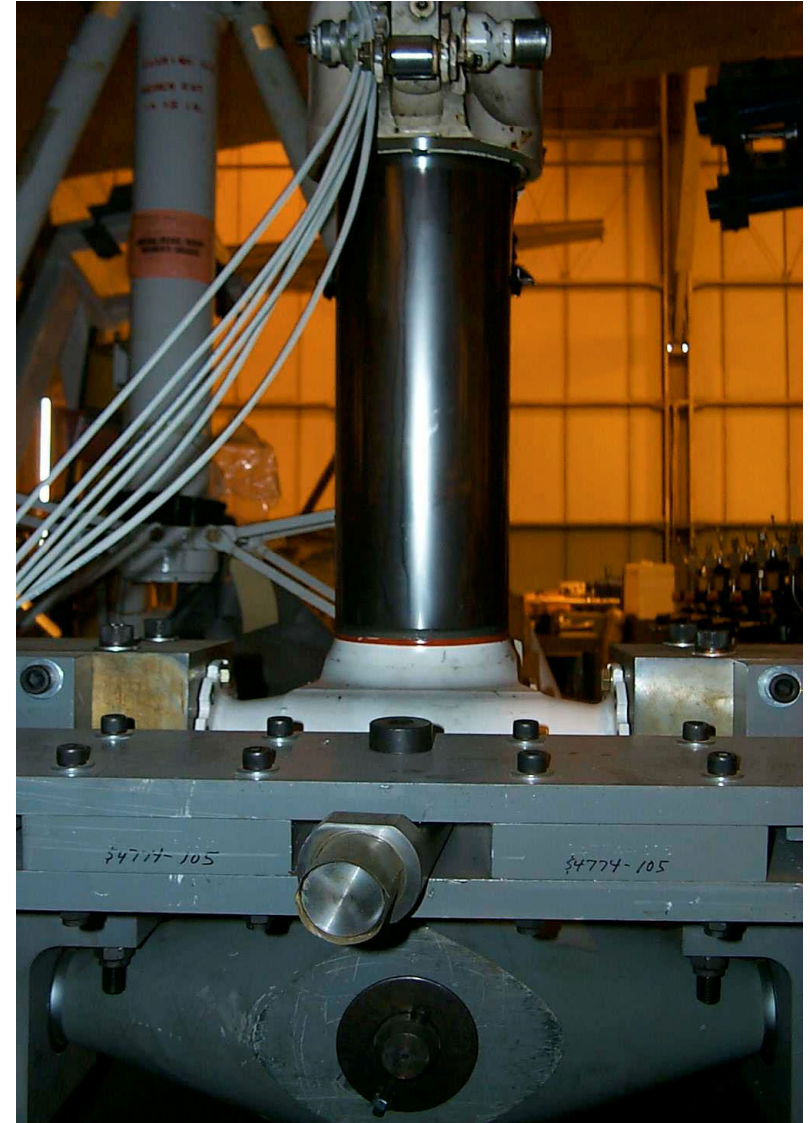
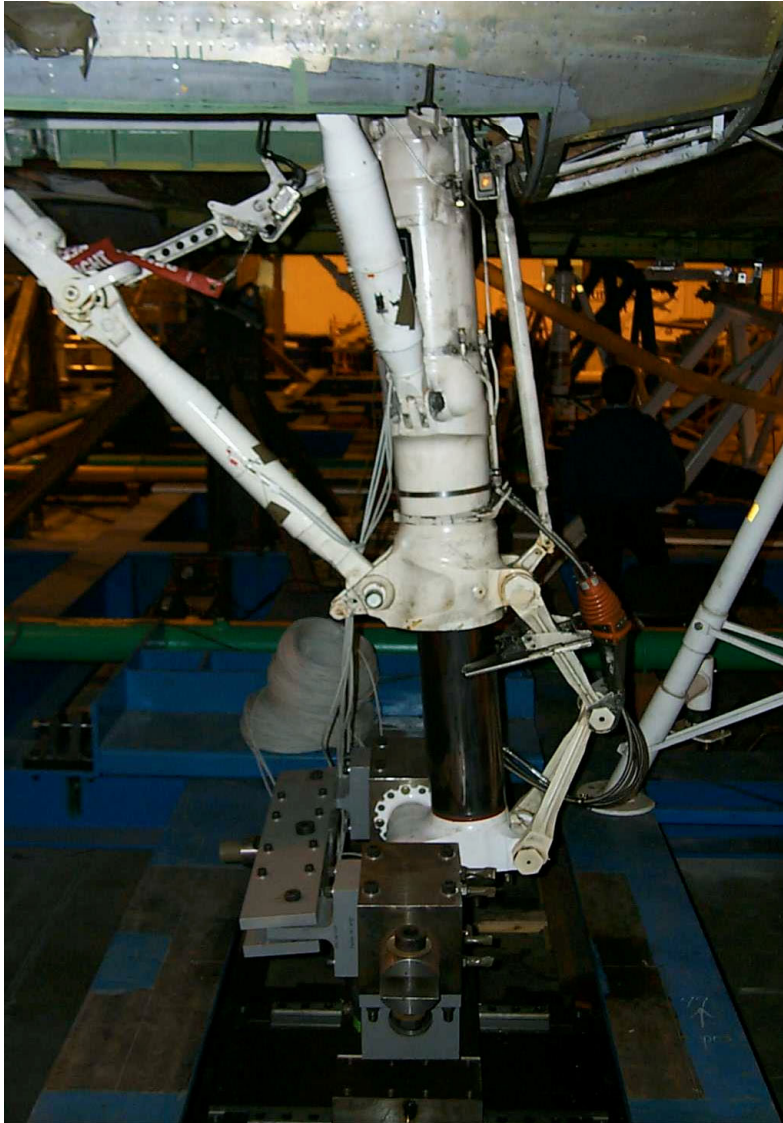
- **Second P-3 MLG Piston coated with WC/Co 83/17 HVOF coating**
- **To be used in \$2M P-3 aircraft SLAP/SLEP - Full Scale Fatigue Test**
- **R/H MLG chrome plated**
- **L/H MLG HVOF coated**
- **HVOF coating, grinding & processing of gear funded by Naval Research Lab (NRL)**
- **HVOF coated MLG Assy. installed on A/C**
- **Testing to begin September 2001 (24 month test)**



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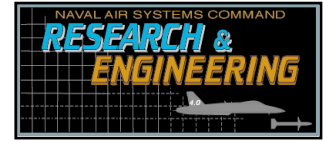


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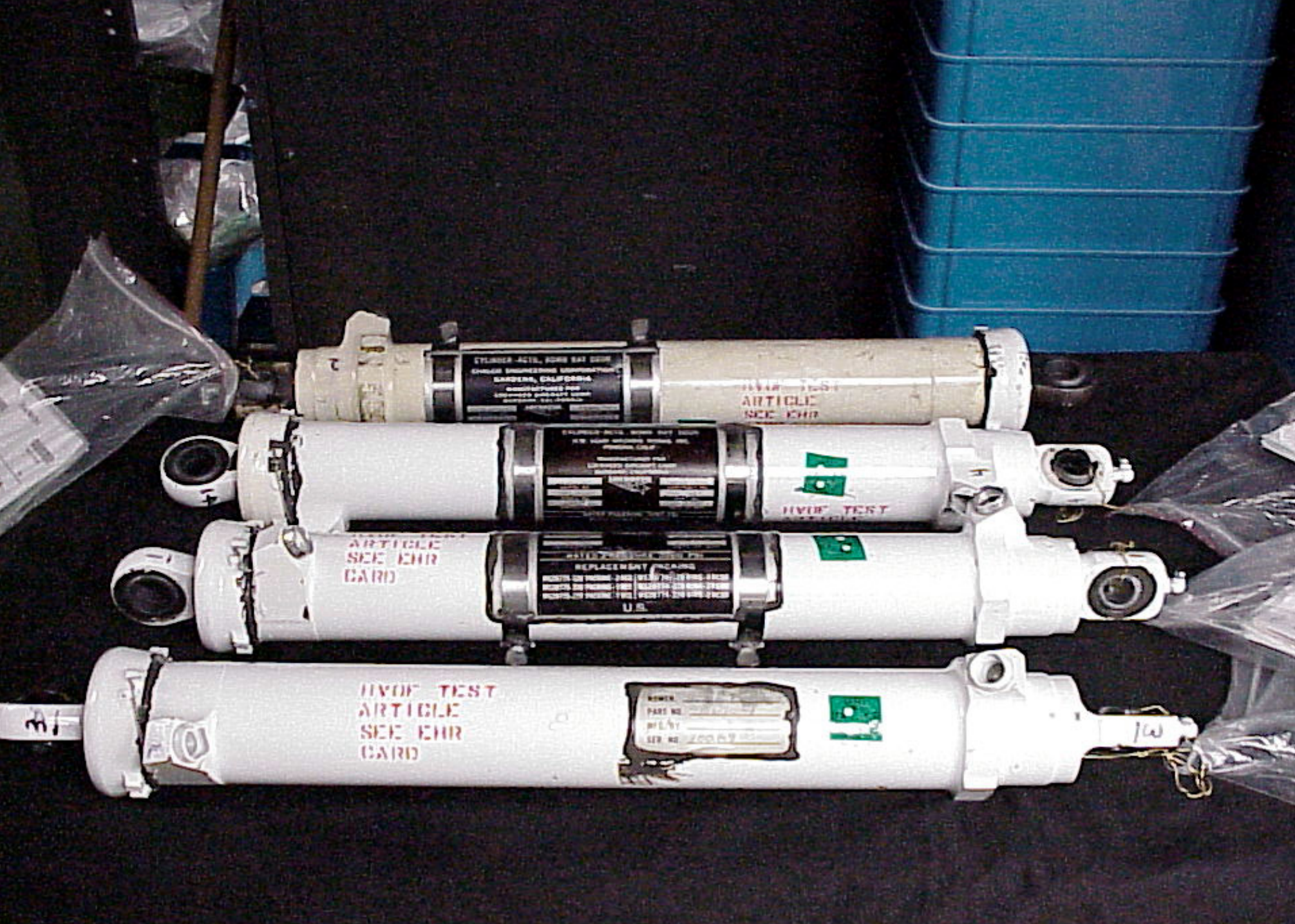


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Current Status and Recent Accomplishments

- **P-3 Bomb Bay Door Actuator Pistons coated, ground, & superfinished**
- **Four HVOF coated P-3 Bomb Bay Door Actuator Assemblies RFI and installed on VP-30 Aircraft BuNo 156510 July 2001**
- **Aircraft currently undergoing PDM at JAX**
- **A/C scheduled for delivery back to VP-30 on 7 Sept 01**



CYLINDER ACTS, BOMB SAT DOWN
GARDEN, CALIFORNIA

HYDRO TEST
ARTICLE
SEE EHR

REPLACEMENT
U.S.

1

HYDRO TEST

ARTICLE
SEE EHR
CARD

REPLACEMENT
U.S.

1

HYDRO TEST
ARTICLE
SEE EHR
CARD

REPLACEMENT
U.S.

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Current Status of HVOF Coated EA-6B Main Landing Gear Flight Clearance

MLG Collar and Piston coated Oct. 99

Components completed depot processing Dec. 99

Flight clearance requested Jan 00

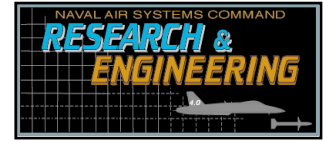
Meeting at NAVAIR/Pax River 13 April 00

Obtained NAVAIR approval of data May 00

Flight clearance at AIR 4.3.3 waiting final approval



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“NAVAIR ONLY” HVOF L.G. meeting 16 Nov 00

Flight clearance on-hold

**NAVAIR presented 240KSI requirement for all
landing gear fatigue tests at Dec HCAT mtg.**

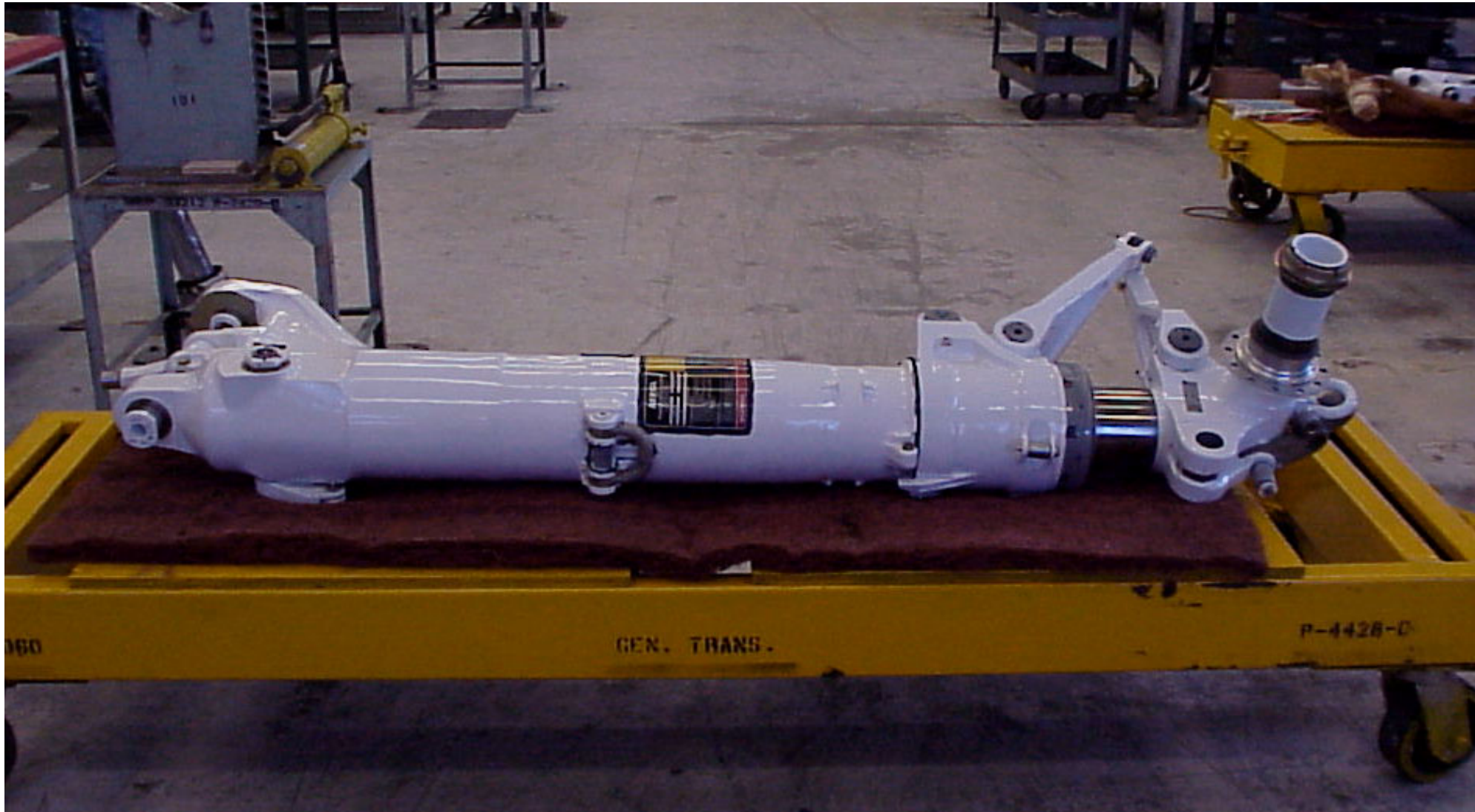
NAVAIR & NRL meeting 29 Jan 01

Large sample (2”-3” dia) testing discussed

NAVAIR (Eui Lee) to conduct testing

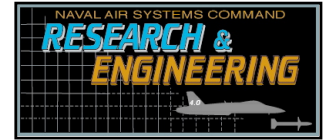
Flight clearance at AIR 4.3.3 waiting final approval

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Current Status of E-6A Main Landing Gear

**Two HVOF coated E-6A MLG Uplock Hook Shafts
installed 10 March 99 on A/C 164388**

1,750 Flight Hours (8/02/01) A/C completed

1,524 Landings (8/02/01) Mod in Waco, TX

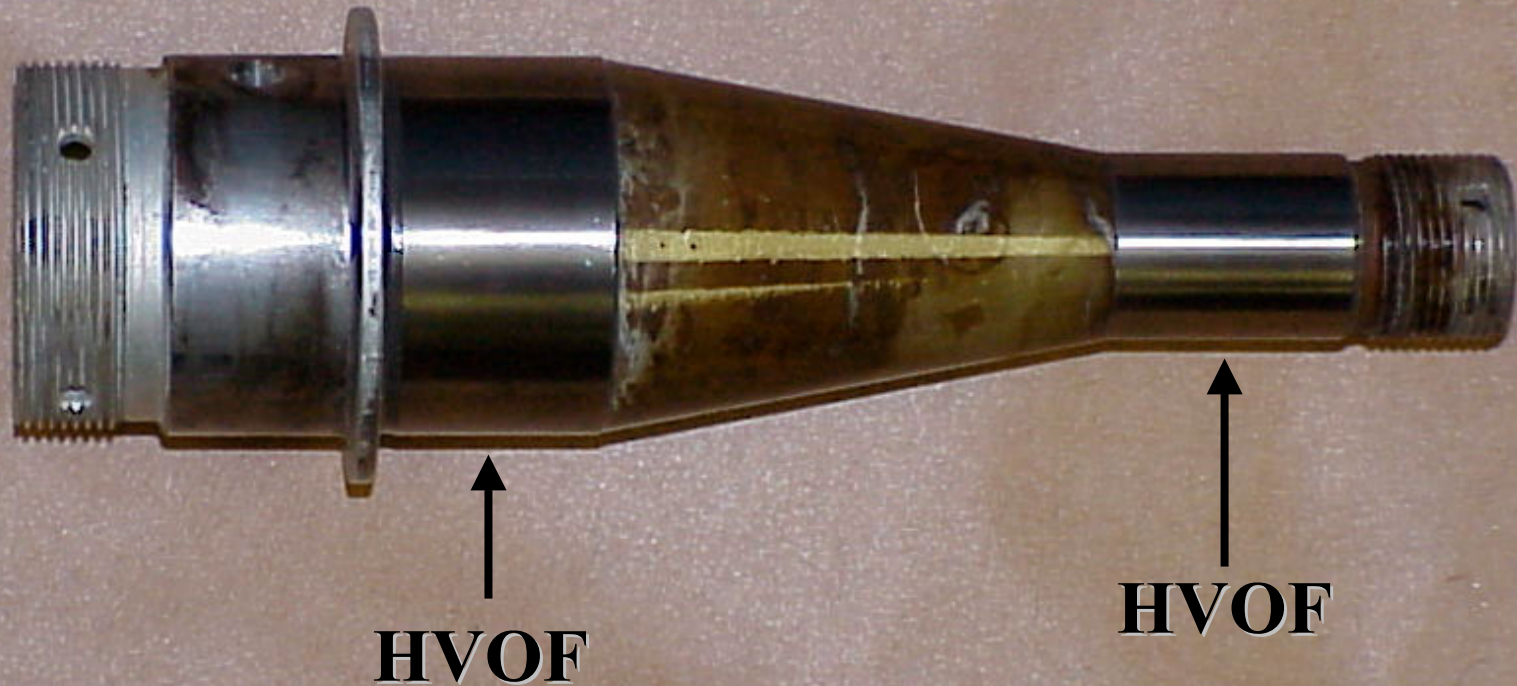
**One HVOF coated E-6A MLG Uplock Hook Shaft
installed on Aircraft 162784 in Feb. 2000**

2,172 Flight Hours (7/31/01)

1,752 Landings (7/31/01)

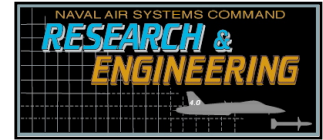
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E-6A MLG Lock Hook Shaft P/N 9-45196





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Status of New HVOF Cell at NADEP JAX

Specification for HVOF Cell complete

Contract Award - March 29, 2000

Cell to be completed July 2001

Natural Gas Line completed to Cell

Blast cabinets for Cell #7 operational Jan 01

Sound-proof enclosed room installed

Exhaust plenum & Air Handling System installed

FANUC 5-Axis Robot System for Cell #7 installed

Multi-Coat Process Control Unit Installed

Awaiting Filters for Natural Gas Line